

STAGE ONE - SCIENCE

Physical World: Exploring Energy

UNIT OVERVIEW

This unit explores light, movement, heat and sound and as common forms of energy and how this energy is created, sensed and used. Students engage with a range of interactive, engaging and hands-on activities using their senses and scientific skills.

SCIENCE OUTCOMES

ST1-1WS-S observes, questions and collects data to communicate and compare ideas

ST1-2DP-T uses materials, tools and equipment to develop solutions for a need or opportunity

ST1-8PW-S describes common forms of energy and explores some characteristics of these common forms.

KEY INQUIRY QUESTIONS

What are the different forms of energy around us and how can we detect them?

CONTENT

Energy comes in different forms that can be detected. Students will:

- identify sound, light, heat, electricity and movement as forms of energy
- explore sound, light, heat and movement from various sources, using the senses
- produce and describe different sounds and explore how pitch and volume can be changed



ACKNOWLEDGEMENT OF COUNTRY AND INTRODUCTION TO ENERGY

Using the Red Hill fire pit, students use their senses to explore four common forms of energy- light, heat, movement and sound. Students learn about how First Nations Australian's use fire for thousands of years and have a deep understanding of its benefit to country and their way living.

LIGHT

In the Red Hill 'dark room', students explore common natural and human-made sources of light. Students develop an understanding of how light moves in straight lines and conduct an experiment to determine what happens when light is directed towards a range of different materials, including reflective surfaces. Students consider the concept of a 'fair test', share results and observations and play with shadow creation through a fun, shadow-theatre game!

SOUND

Using their own instrument- the voice box- students explore how sound energy is made of vibrations. Students engage with simple materials and a range of musical instruments to create, visualise and sense sound waves. Students explore how sound can travel distances through making a simple phone and sending messages to a friend using sound waves.

MOVEMENT

Through engaging, hands-on activities, students explore and learn about movement as kinetic energy. Students develop an understanding of how energy can change forms and consider how the stored, chemical energy in their bodies is changed into movement. Students make their own pinwheels to spin and create a smoothie to share using movement and the Red Hill Fender Bender- a bicycle blender!

For bookings or further enquiries about this program, please contact Red Hill Environmental Education Centre on 02 6374 2558 or redhill-e.school@det.nsw.edu.au.

